

CLAIMS

What is claimed is:

1. Packet buffer equipment for receiving virtual channel
5 multiplexed ATM (asynchronous transfer mode) cells to assemble
into a packet for each virtual channel without modifying the
received cells and to output on a per packet basis, said packet
buffer equipment comprising:

a packet buffer memory having a plurality of cell buffers
10 for storing a received packet on a per cell basis;

a buffer management memory for retaining buffer management
information corresponding to each cell buffer in said packet
buffer memory;

a packet-under-assembly pointer for constituting a
15 packet-under-assembly queue to store cells into said packet
buffer memory on the virtual channel basis to assemble from the
top cell to the end cell; and

a header analysis and generation means for analyzing said
top cell to generate a new header cell, and for writing said
20 generated new header cell as a new top cell in said packet-
under-assembly queue.

2. The packet buffer equipment according to claim 1, further
comprising:

25 a sequence controller for detecting the completion of
assembly into a packet from the top cell to the end cell, for
detecting the completion of writing said new header cell, and

for controlling to connect said packet from said packet-under-assembly queue constituted by said packet-under-assembly pointer to an output-wait queue.

5 3. The packet buffer equipment according to claim 1,
 wherein the write processing of said new header cell as
the top cell includes either addition of said header cell,
substitution of said header cell, or non-conversion processing
of said top cell.

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 4. The packet buffer equipment according to claim 1,
 wherein two linked cell buffers are seized from said packet
buffer memory, on receiving the top cell of a packet,
corresponding to said top cell to start storing cells of said
15 packet being received from the second cell buffer out of said
two cell buffers.

 5. The packet buffer equipment according to claim 2,
 wherein said header analysis and generation means outputs
20 the write completion information of a generated new header cell
as a top cell in said packet-under-assembly queue and attached
information, and said sequence controller controls to discard
a packet in packet-under-assembly queue constituted by said
packet-under-assembly pointer, instead of connecting said
25 packet into said output-wait queue, by referring to said attached
information.

6. The packet buffer equipment according to claim 1,
wherein contents of said new head cell are copied to
headers into succeeding cells to output.